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ABSTRACT

This report presents the results of a statewide study of kindergarten practices in North Carolina during 1988. The study was initiated due to concern about the developmental appropriateness of kindergartens. A total of 103 randomly selected kindergarten classrooms were observed in an effort to measure the quality of classroom practices. In addition, 218 elementary school principals and 375 kindergarten teachers were surveyed about their knowledge, attitudes, and philosophies regarding kindergarten practices. A summary of findings and recommendations is followed by a detailed description of study methods, results and discussion, and more detailed recommendations. (RH)

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Best Practices for Beginners: Quality Programs for Kindergartners

EXECUTIVE SUMMARY

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BEST PRACTICES FOR BEGINNERS:
QUALITY PROGRAMS FOR KINDERGARTNERS

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March 1989

A Study Conducted for the Education Subcommittee of the
Joint Legislative Commission on Governmental Operations

This report presents the results of a statewide study of kindergarten practices in North Carolina during 1988 conducted by researchers at the Frank Porter Graham Child Development Center. The study was commissioned by the Education Subcommittee of the Joint Legislative Commission on Governmental Operations because of an increasing concern about the developmental appropriateness of kindergartens. We observed 103 randomly selected kindergarten classrooms, measuring the quality of classroom practices. In addition, 218 elementary school principals and 375 kindergarten teachers were surveyed about their knowledge, attitudes, and philosophies regarding kindergarten practices. A summary of our findings and recommendations is presented below, followed by a more detailed description of study methods, results, and conclusions.

SUMMARY OF FINDINGS

A wide range of quality and appropriateness was observed in kindergarten classes in North Carolina: 20% of classes met our criterion of developmental appropriateness, 20% were close to the criterion, and 60% fell well below the criterion.

Differences in the quality of kindergarten classes were not related to region of the state or size of the school.

A remedy for poor quality kindergartens was not found in one particular aspect of the kindergarten program; weaknesses were found in all areas, from motor to language to social skills.

Kindergarten teachers and principals of schools with kindergartens were quite knowledgeable about developmentally appropriate practices for 5-year-olds, and higher levels of knowledge predicted higher quality classrooms.

From both teachers' and principals' perspectives, administrative policies had the most influence on kindergarten programs, apart from the kindergarten teacher herself. Teachers reported learning most about developmentally appropriate practices from their own classroom experiences, other teachers, and inservice sessions.

The use of retention is far too frequent in North Carolina kindergartens: 8.6% of children in classes observed in the spring of 1988 were retained or placed in a transition kindergarten class for the next year. Assuming this retention rate statewide, this extra year costs the state approximately $22 million.

Over 20% of schools used practices, besides retention in grade, adding an extra kindergarten year for some children: either the year before entering kindergarten (pre-kindergarten readiness classes) or the year after (transition kindergarten classes).

Most teachers reported that children who have attended preschool programs are better prepared for kindergarten than those who have not.

A majority of teachers and principals believe that public school programs should be available for 4-year-olds.

SUMMARY OF RECOMMENDATIONS

Provide every school serving kindergartners with a set of materials which outline developmentally appropriate practices.

Provide training for kindergarten teachers in implementing developmentally appropriate educational practices.

Provide training for principals on both identification and implementation of developmentally appropriate practices for kindergartners.

Require training of all teacher assistants in kindergarten classrooms.

Ensure that resource people available to kindergarten teachers are knowledgeable about the implementation of developmentally appropriate practices for the youngest children in our public schools.

Establish exemplary teacher positions in each school district. These teachers would help other kindergarten teachers implement developmentally appropriate practices in their classrooms.

Permit the use of textbook funds to purchase developmentally appropriate learning materials for use in kindergarten classes.

Fund a supplemental appropriation to upgrade playgrounds for young children.

Reduce retention rates in kindergarten to 2% or less.

Conduct a special study of the use of retention, pre-kindergarten, and transition classes in North Carolina schools to determine the extent and effects of these practices.

Ensure that programs for even younger children are developmentally appropriate, as the role of public schools is expanded to meet the needs of 3- and 4-year-old children.

METHOD

This study involved the collection of data from three major sources: 1) Visits to a random sample of 103 kindergarten classes in North Carolina, 2) Questionnaires sent to a random sample of principals of N.C. public schools housing kindergarten classes and principals of the schools visited, and 3) Questionnaires sent to a random sample of kindergarten teachers and also to the teachers in the sample classrooms visited. Each component of the data collection is discussed in this section. Table 1 provides an overview of the data collected.

Table 1

Overview of Kindergarten Project Data

	Spring Random	Fall Random	General Random
<u>Observation</u>			
Early Childhood Environment Rating Scale	N=53	N=50	X
Checklist of Kindergarten Activities	N=53	N=50	X
Teacher Interview	N=53	N=50	X
Attitude to School Questionnaire	N=1209	X	X
<u>Survey</u>			
Teacher Questionnaire	N=47/53 (89%)	N=46/50 (92%)	N=275/355 (77%)
Principal Questionnaire	N=47/53 (89%)	N=46/50 (92%)	N=125/150 (83%)

Classroom Visits

Observations of 103 randomly selected kindergarten classrooms were conducted during the Spring and Fall of 1988. These classes were sampled in proportion to the statewide distribution of kindergarten children by two variables: Region of the State (West, Piedmont, and East), and School Size (Small=Average Daily Membership (ADM) of less than 300, Medium=ADM of 300-599, and Large=ADM of 600 or greater). The observed classes accurately reflected the statewide distribution of kindergartners.

Two observational measures were used to record information from the classes visited. The *Early Childhood Environment Rating Scale* (ECERS) (Harms & Clifford, 1980), an instrument designed to assess the quality of preschool classes, was modified for use with kindergarten classes. This standardized instrument provides an assessment of the curriculum, environment, teacher-child interactions, and teaching practices within the classroom. We also developed a new measure, the *Checklist of Kindergarten Activities* (CKA), in order to obtain supplementary observational information about the activities and setting in kindergarten classes. The Teacher Interview, also designed by the project investigators, was used to gather more extensive information directly from teachers about their concerns, the classroom environment, and the processes of teacher supervision, retention in kindergarten, and identification of children with learning problems at their school. The *Attitude to School Questionnaire* (ASQ) (Strickland, Hoepfner, & Klein, 1976) provided an objective measure of children's self-reported attitudes to various common school situations. This instrument was used only in the spring, and **not** in the fall because children had not been in these classrooms long enough to have accurately measurable attitudes to school.

Five assessors were recruited from across the state and trained to conduct the observations in the spring, and six were recruited for the fall, including three returning assessors from the spring. The study coordinator visited 11 schools, one with each assessor in the spring and fall, in order to provide reliability data on the two observational measures. The assessor spent 2-3 hours in the classroom during the morning completing the observational measures and then interviewed the teacher. During the spring visits, the assessor also administered the ASQ to the children.

Principal Questionnaires

The second component of the data consisted of a survey of principals of schools with kindergartens using a measure we designed, the *Questionnaire for Elementary School Principals*. This questionnaire was used to obtain information directly from principals about their knowledge, attitudes, and philosophies toward kindergarten. Principal questionnaires were sent to a randomly selected sample of 150 elementary school principals, representing about 14% of all principals of schools with kindergartens in North Carolina, as well as the 103 principals of the observed schools. Overall, 86% (218/253) of the Principal Questionnaires were returned, an extremely high return rate for survey research of this kind.

Teacher Questionnaires

The third component of the data consisted of a survey of kindergarten teachers in North Carolina. The project-designed *Questionnaire for Elementary School Teachers* was used to obtain information about teachers' knowledge, attitudes, and philosophies about kindergarten. Most of the questions in the Teacher Questionnaire were similar to those in the Principal Questionnaire. Teacher questionnaires were sent to 355 randomly chosen kindergarten teachers, representing 10% of all kindergarten teachers in North Carolina, as well as to the 103 teachers of classrooms observed in the spring and fall. Overall, 81% (375/464) of the Teacher Questionnaires were returned. Teachers move or leave the field at the rate of approximately 10% per year. Since we were selecting teachers in the fall of 1988 from the previous school year's teacher list, the highest return rate we could have hoped to achieve was about 90%. We consider the 81% teacher return rate to be outstanding, reflecting significant interest in the topic of kindergarten teaching.

RESULTS AND DISCUSSION

A wide range of quality and appropriateness was observed in kindergarten classes in North Carolina. One of the main goals of this study was to determine the developmental appropriateness of North Carolina kindergartens. Using a standardized observational measure of quality and appropriateness, we found a wide range of variation among the 103 classes observed, as shown in Figure 1. About 20% of the classes observed met the criterion we set as developmentally appropriate: a score of 5 or higher on the *Early Childhood Environment Rating Scale* (ECERS). Another 20% of sample classes scored within half a point of 5, a reachable distance. That is, with a little more attention to certain areas (e.g., less large-group instruction, more language interaction, more variety in centers, more child choice), a class that fell within this 20% could soon reach the criterion.

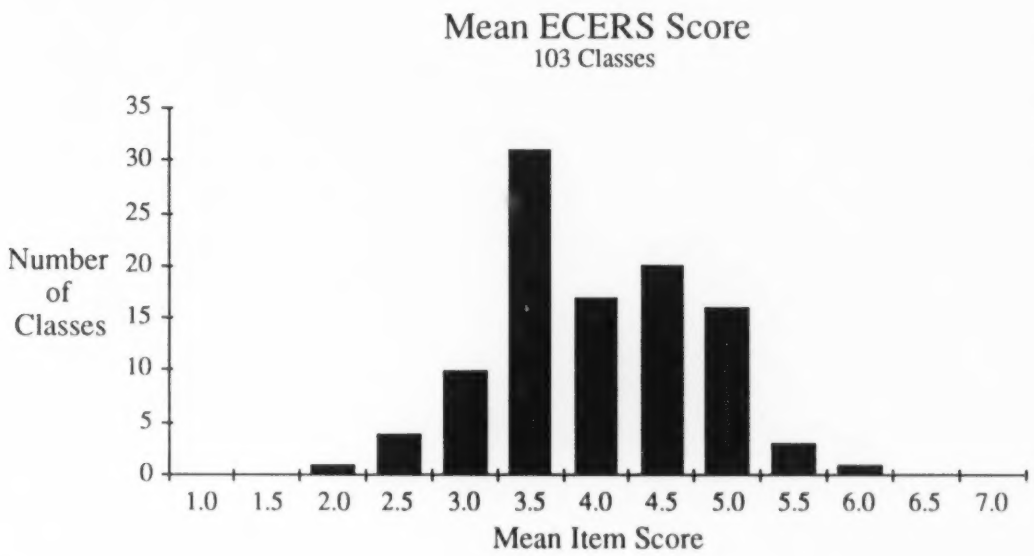

Figure 1

Both the mean and median quality scores (4.26 & 4.28), however, were well below 5. Over 60% of the observed classes rated well below the level considered developmentally appropriate. This finding is especially troublesome considering that most teachers, because of the observer's presence, were undoubtedly conducting their classes as best they knew how. Children in these classes clearly are not receiving the kind of experience that would be best for them in their important first year of school.

The developmental appropriateness criterion used in this study was realistic. Noting that 20% of the randomly selected classes were developmentally appropriate, it is clear that our

standards of developmental appropriateness can be met. Many classrooms were able to reach the goal, even some that may not have had optimal space or materials. Achieving a score of 5 on the ECERS is possible.

Differences in the quality of kindergarten classes were not related to region of the state or size of the school. These good kindergarten classes are not clustered in any specific locations, but are scattered throughout the state. Some are in urban areas, others rural. Some are in large schools, others small. This distribution of good kindergarten teachers can be capitalized upon when planning new interventions to improve the quality of kindergarten. The spread of quality classes may reflect the Legislature's commitment to even funding for schools throughout the state.

The remedy for poor quality kindergartens is not found in one particular aspect of the kindergarten program; weaknesses were across-the-board. Classes with low overall ECERS scores had low scores on each of the six subcategories; classes that scored well overall also tended to score well on all subcategories. However, across all classrooms, teachers are doing better in some areas than in others. Mean scores on the six content area subscales of the ECERS are shown in Figure 2.

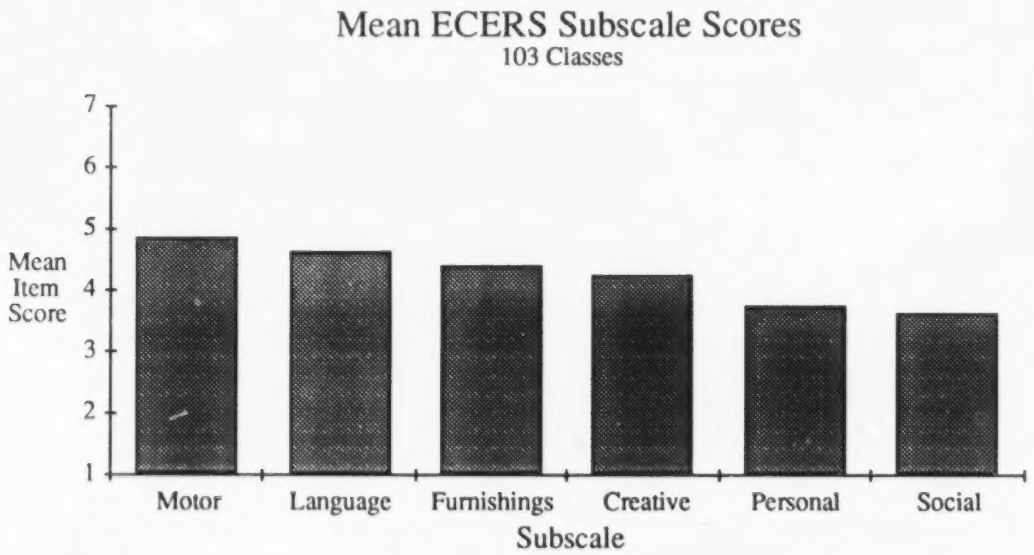

Figure 2

The motor and language areas were taught most appropriately, although the mean scores were still below 5, the criterion set as developmentally appropriate. Although the provision of a variety of fine motor activities (e.g., puzzles, beads, Legos, scissors) was fairly good overall, the provision of gross motor equipment (e.g., large blocks, child-sized PAR course) was poor. Playground equipment is particularly inadequate, often nonexistent, in bad repair, or too large for

kindergarten youngsters. In the area of language experience, the use of receptive and expressive language activities (e.g., books, records, puppets, and dramatic play) was better than reasoning activities (e.g., sequence cards, sorting games) and informal language experiences (e.g., teacher-child conversations and social interactions).

No single mean item score within the furnishings category met the criterion for developmental appropriateness. The provision of furnishings for learning activities (e.g. sand/water tables, woodworking benches, easels, art tables) was especially low. In the creative activities area, the music/movement item was the highest-rated item on the entire scale, although some individual classes still received low scores. Opportunities were quite limited in most classes for creative activities in art, dramatic play, and sand/water play, and these are certainly areas to target for improvement.

Personal care routines and social development were the least appropriate areas. Little emphasis was placed on personal hygiene. Occasionally, children were even discouraged from washing hands, an important self-help skill for kindergartners and a method for illness prevention. Our survey results indicated that principals **and** teachers consider social skills development the most important aspect of kindergarten, yet our observations showed that this area needs the most improvement. Three items which especially need attention are cultural awareness, space to be alone, and free play. Cultural awareness was the least appropriate item of all, with little evidence of ethnic and racial variety in classroom materials or teaching. This is an appalling lack considering the high percentage of minority children in this state.

The lack of region and size effects on the ECERS quality rating indicates that these factors are **not** related to kindergarten quality. The level of developmental appropriateness also is **not** related to many variables one might predict: class size, number of retentions, teacher's education or experience, principal's education or experience, or children's attitudes towards school. In fact, kindergarten children tended to have very positive attitudes overall, even though many of them were attending classes of low quality.

Other indicators of inappropriate practices were frequently observed: long periods of whole-group instruction, too many dittos and worksheets, and an overwhelming predominance of teacher-led instruction. Whole-group instruction is not in line with the way 5-year-olds learn best—through active learning. Teachers also cannot individualize instruction when working with the entire class. In several instances we observed whole-group activities for an entire morning. The attention span of kindergartners is limited to 20-30 minutes of group instruction at one time, and whole-group teaching should be limited to less than 1/3 of the day.

We also saw frequent use of ditto sheets or worksheets. While occasional use of worksheets can provide variety or interest in a topic, teachers too often rely on these school-produced materials rather than providing active and concrete learning experiences. In addition, the high number of classes that were primarily teacher-led as opposed to child-led indicates that children have limited choices during the kindergarten day. Curiosity and independence are fostered by allowing choices, such as choosing a center, choosing their own partners for activities, choosing

which book to have read aloud. Teacher direction of all activities stifles a child's innate interest and curiosity.

Kindergarten teachers and principals of schools with kindergartens are quite knowledgeable about developmentally appropriate practices for 5-year-olds. On a set of questions measuring attitudes and knowledge about kindergarten practices, most teachers and principals scored highly despite the large number of classes scoring below criterion on the observational measures. Within a group they differed mainly in the strength of their agreement with appropriate developmental procedures. Kindergarten teachers were also quite experienced, having taught kindergarten for an average of 9 years. Principals reported little difficulty in finding qualified kindergarten teachers. Both teachers and principals appropriately believe that a kindergarten teacher should have specialized training in early childhood education or child development, although few principals themselves actually have this background.

Higher levels of teacher and principal knowledge about developmentally appropriate practices are predictive of higher quality classrooms. However, because the overall scores are quite high, this relationship may have more to do with the strength of their beliefs in these practices, rather than simply knowing what is and is not appropriate. Increasing their knowledge or their commitment to developmentally appropriate practice may lead to better teaching.

Equally likely is the possibility that translating this knowledge into day-to-day practice is the obstacle. Some teachers are able to accomplish this task while others appear to need help. Other teachers and inservice sessions are reported by kindergarten teachers as especially helpful in learning about developmentally appropriate ways to teach kindergarten. Methods such as a mentor teacher system would appear to be useful. While inservice sessions are also helpful, the content of the sessions should be geared toward implementation of developmental principles, emphasizing practices and activities that make kindergartens better learning environments for young children.

The focus on developmental appropriateness should also be targeted towards teacher assistants. As the second most important adult in kindergartners' education, assistants could contribute significantly to the improvement of the overall program quality. In the observed classrooms, assistants were involved in all aspects of kindergarten teaching: one-to-one instruction, leading small and large groups, materials preparation, and clerical work. Since they are indeed participating in these important aspects of the class, their knowledge and use of appropriate practices should be enhanced as well as that of teachers.

From both teachers' and principals' perspectives, administrative policies have a great deal of influence on kindergarten programs. Administrative policies affect the materials available for classroom use, specific classroom practices, and skills required for promotion to first grade. We know that some policies are specific to an individual school and others are set by the district. School administrators, particularly principals, need to consider how administrative policies will influence the developmental appropriateness of kindergarten classrooms. Current

policies and future changes in policies should be carefully examined for their potential impact on kindergartens.

The use of retention and transition classes is far too frequent in North Carolina kindergartens. A follow-up of the spring sample showed that 8.6% of these kindergartners were not promoted to the first grade, either repeating kindergarten or being placed in a transition kindergarten class. Reasons typically given for retaining a child were a lack of specific cognitive or social skills, or generally delayed development, but also often included family considerations, small physical size, or young age.

Figure 3 shows the distribution of these retained children according to sex and birthdate. This figure indicates that more boys were retained than girls (67 vs. 48), and that younger children were retained more frequently than older children (42 vs. 32 vs. 26 vs. 15). These results are similar to findings of many other studies of retention in the early grades. Changing the age of entry for kindergarten will not alleviate this disparity in retention by age because there will always be relatively younger and relatively older children in any class, regardless of entry cutoff date. In addition, the effect of age operates across all ages of kindergartners, not just the youngest quartile. Standards for promotion to first grade appear to be relative to the group of children judged, and changing the entry age would be expected to result in a corresponding change in standards.

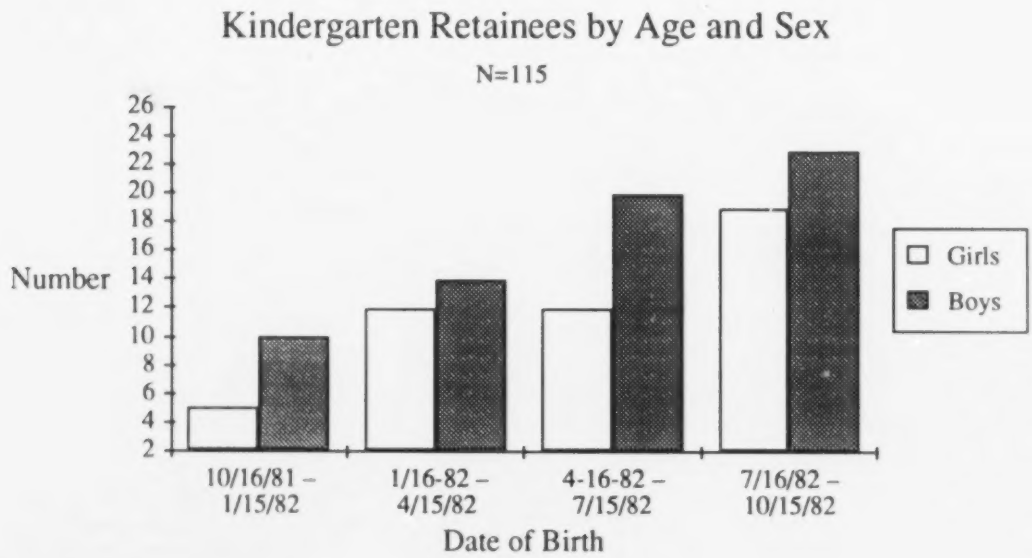

Figure 3

Regardless of whether the non-promotion is due to a decision to retain in a regular kindergarten class or to move the child to a transition class, this rate (8.6%) is far too high. Re-

search evidence on this issue is almost uniformly negative. In a meta-analysis of several studies of grade retention, Holmes and Matthews (1984) concluded that children who are retained in grade make less progress than similar children who are promoted to the next grade. Non-promoted children score less well on personal adjustment measures **and** achievement. A review of the research on transitional placements also shows its lack of effectiveness (Gredler, 1984).

Over 20% of schools used practices, besides retention in grade, adding an extra kindergarten year for some children: either the year before entering kindergarten (pre-kindergarten readiness classes) or the year after (transition kindergarten classes). Retained children were either retained in kindergarten for another year or sent to a transition kindergarten class, an increasingly frequent "alternative" to retention. To our knowledge, no one in the state has data on the number of transition kindergartens in existence. In our questionnaire sample of 218 principals, 13% reported at least one transition kindergarten class in their school. In our spring observation sample, 21% of those 53 schools had a transition class. The true proportion of transition classes across the state is probably somewhere in between these two figures. In addition, 11% of the principals surveyed had pre-kindergarten classes at their schools for children eligible for kindergarten, but not considered ready yet. We know very little about how these classes are being taught, and we nothing about their effectiveness for the children.

Although the presence of a pre-kindergarten readiness class or transition kindergarten class is predictive of higher quality kindergarten classes, this result may be indicative of the principal's desire to provide appropriate experiences for young children. That desire is reflected in more developmentally appropriate kindergarten, as well as the offering of special classes, pre-kindergarten or transition, even though the use of special classes per se may not be the best practice for young children.

This frequent use of retention in regular kindergarten and transition classes is quite expensive. With approximately 85,000 children in kindergarten, an 8.6% retention rate translates into 7,310 kindergarten children being held back in any given year in the state. With state expenditures conservatively estimated at $3,000 per kindergartner per year, this represents a total of $22 million per year in state funds and an estimated $30 million overall when local and federal funds are included. This quite large expenditure to support a practice which is of little or no value should be addressed directly by the Legislature or State Board of Education.

It is particularly interesting to note that 33 (62%) of our 53 spring sample classrooms retained either no children or only one child, as shown in Table 2. In these classes, the overall retention rate was a more reasonable 1.7%. A reduction in the statewide average retention rate to 1-2% would result in substantial savings to the state and would furthermore lessen the negative impact of this practice on children.

Table 2

Frequency of Retentions in Spring Observation Sample

N=53

Number of Children Retained in Class	Frequency of Classes	% of Classes
0	19	35.8
1	14	26.4
2	5	9.4
3	3	5.7
4	2	3.8
5	5	9.4
7	2	3.8
8	1	1.9

Societal changes, especially increases in preschool attendance, are influencing North Carolina kindergartens. Teachers and principals report "changes in society" and "preschool curriculum" as important influences on their own kindergarten programs. About 64% of North Carolina mothers of 4-year-olds are employed (Clifford, et al., 1988); thus many children are in group care environments before they come to kindergarten. Most teachers in our sample report that kindergartners, as a result of these preschool experiences, are much better prepared than children in the past, especially in the areas of academic skills and social skills development. This impression of kindergartners as better prepared or more sophisticated learners is undoubtedly influencing kindergarten content and practices.

A majority of teachers and principals believe that public school programs should be available for 4-year-olds. This view is probably related to their perceptions that kindergartners benefit from preschool programs. About half think that programs should be offered for all 4-year-olds and another one-third believe that programs should at least be offered for disadvantaged 4-year-olds. The main obstacles to offering such programs appear to be funding and space, not attitudes or knowledge. Only 25% of the schools represented in our survey would have the physical space necessary to house a class for 4-year-olds.

RECOMMENDATIONS

Based on both the results of analysis of the data collected for this study and our combined experience as we have observed in the sample classrooms, read the many comments by teachers and principals, and talked to literally hundreds of people across the state, the following recommendations are offered to assist in making North Carolina kindergartens the very highest quality possible.

Provide every school serving kindergartners with a set of materials which outline developmentally appropriate practices. There is general agreement within the profession about what constitutes developmentally appropriate practice. Materials such as the National Association for the Education of Young Children's booklet titled *Developmentally Appropriate Practices for Kindergarten* (Bredekamp, 1986) and program accreditation materials, the *Early Childhood Environment Rating Scale* (used in this study), and other descriptive materials would provide each school with a point of departure for a self-examination of kindergarten practices.

Provide training for kindergarten teachers in implementing developmentally appropriate educational practices. Teachers and principals had relatively high scores on knowledge and attitudes about developmentally appropriate practices. However, the overall poor implementation of these practices in the classroom indicates that the transition from knowing to doing is a difficult one. Specific training in how to implement best practice for kindergarten children is clearly needed. A bright spot in the findings is that we have literally hundreds of kindergarten teachers who have been able to put these concepts into practice. A method should be developed which takes advantage of these outstanding teachers to help others implement appropriate practices in their classrooms as well. Teacher responses to our surveys and interviews indicated a preference for learning from other teachers.

Provide training for principals on both identification and implementation of developmentally appropriate practices for the youngest children in school. While the study results indicate that principals have relatively good knowledge and attitudes about appropriate kindergarten practices, those with the highest scores tended to have the best classrooms. Translation of this knowledge into classroom practice is quite difficult for most schools. Therefore, we recommend two specific types of training. First, principals should be trained in assessment of classroom environments using one or more of the available instruments so that they can match teachers of outstanding programs with those in need of help and can identify areas which need attention. (Examples of instruments are the program accreditation materials developed by the National Association for the Education of Young Children and the *Early Childhood Environment Rating Scale* used in this study). A related issue is the fit between what is assessed on the currently required Teacher Appraisal Instrument (TAI) and the consensus view of what is developmentally appropriate practice in kindergartens. The TAI is geared to appropriate practice for older children, not for the young children in kindergarten. Adjustments need to be made in the TAI to accommodate these differences. Then, additional training should emphasize methods for implementing (not simply describing) good practices for young children. Principals should

understand the most effective ways to direct resources in order to implement high quality kindergarten programs. Training in effective use of teacher assistants should also be included in principal training sessions.

Require training of all teacher assistants in kindergarten classrooms. We found great variation in the use of teacher assistants in the classrooms observed. In a few districts, training was systematically provided for all teacher assistants. Where this occurred, or where schools had provided their own training, aides were able to provide a broader range of services. It is unrealistic to expect that completely untrained personnel can provide the type of assistance needed by kindergarten teachers. In the long run, the state should require teacher assistants to have either a Child Development Associate Credential or a degree from a community college.

Ensure that resource people available to kindergarten teachers are knowledgeable about the implementation of developmentally appropriate practices for the youngest children in our public schools. Principals in the schools we observed and those we surveyed typically had little or no training in educating kindergarten-aged children. Their training was more likely to have focused on secondary or, at best, upper elementary pupils. In addition, kindergarten teachers rarely had access to supervisory staff at the central office level who were knowledgeable about children of this age. Particularly as North Carolina schools begin to serve even younger children, every school district should have at least one supervisory level staff member with training and experience in educating children below age 6.

Establish exemplary teacher positions in each school district to provide the impetus for improvement in kindergarten practice and to guide the implementation of programs for even younger children. Establish a $5 million fund to support an exemplary teacher for every 20 kindergarten teaching positions in the state. These teachers would be provided released time to work with other teachers in their school district, authority to form kindergarten study groups, and limited funds to travel outside the district for inservice in other locations. Other teachers would also be given released time to work in the exemplary teachers' classrooms to acquire needed skills. Exemplary teachers would be paid a special bonus of 10% of their salaries for the extra responsibilities. The estimated cost would be more than offset by the savings made by reducing retention rates.

Encouraging principals and supervisory personnel to make use of these highly skilled teachers in their inservice programs, and providing these teachers with blocks of time to work with other teachers in their own school or other schools in the district could dramatically improve kindergarten practices across the state. This overall approach could be utilized with very little additional funding, and most of the costs would be recouped when kindergarten retention rates drop.

Permit the use of textbook funds to purchase developmentally appropriate learning materials for use in kindergarten classes. Teachers reported having to spend their own money to purchase specialized materials for their classrooms because of restrictions on use of state funds. While these restrictions may well be appropriate for programs for older children, they

inhibit the best use of resources for kindergartners. Developmentally appropriate materials and equipment, as well as appropriate activities, are needed to make kindergarten classes truly enriching for our young children. In addition, culturally sensitive materials should be available in every classroom.

Fund a supplemental appropriation to upgrade playgrounds for young children. Development of gross motor skills is particularly important for kindergartners; however, playgrounds were found to be generally inadequate for young children. Typically, equipment was designed for much older and more mature children. Equipment that was available was often in poor repair and unsafe.

Reduce retention rates in kindergarten to 2% or less. Few children should be retained in their first year of school. Not only can this harm their self-esteem and damage their motivation to learn, but evidence strongly suggests that retention does not improve children's academic achievement. Retained children appear to be no different in terms of first grade readiness than similar children who were not retained. Such a reduction would result in savings of some $17 million annually in state expenditures.

Conduct a special study of the use of retention, pre-kindergarten, and transition classes in North Carolina schools to determine the extent and effects of these practices. The current study was not designed to examine issues at the level of individual children. However, the widespread use of retention for children in their first year of school raised particular concerns for us. The growing practice of diverting children into pre-kindergarten classes before entry into the regular kindergarten program amounts to retention before the fact. This practice seemed to be occurring without the same precautions that would be used before placing a child in other special classes (such as special education classes), but has the same potential consequences for the children. Similarly, a much greater than expected use of transition kindergarten classes was observed. In two of the classes observed, approximately half of the children were moved into transition classes and thus, in effect, retained. Previous research provides little or no support for such experiences for young children. A careful examination of these two recently introduced practices is much needed. A more thorough documentation of the extent of these practices and study of their effects on children should be conducted with a report back to the General Assembly in the next full session.

Ensure that programs are developmentally appropriate and not just extensions of elementary school downward, as the State considers the role of public schools in meeting the needs of 3- and 4-year-old children. Principals and teachers alike think that schools should serve younger children. Teachers overwhelmingly indicated that preschool programs help prepare children for school. Many school districts are already operating programs for 4-year-olds or are considering beginning such programs. There was some sentiment that adding even younger children could reduce the pressure for kindergartners to be like older children and allow teachers freedom to provide more appropriate programs for 3-, 4-, and 5-year-olds. However, teachers and principals have concerns about adding this new responsibility. Adequate space is a problem for 75% of principals surveyed. Teachers were concerned that there would be pressures

to simply move the curriculum down to even younger children—a problem they felt had occurred for 5-year-olds in kindergarten. These concerns are particularly relevant since the first pre-kindergarten programs will be targeted toward at-risk children who are least able to respond to the regular school curriculum.

CONCLUDING REMARKS

This study has documented the presence of many exemplary kindergarten classes in North Carolina, but also the predominance of classes that fall well below standards of developmental appropriateness. The widespread use of retention and transition kindergarten classes was also noted. These findings raise significant questions about the education received by our youngest children. Recommended strategies for correcting these problems do not entail large expenditures of funds. They do, however, require a significant commitment of attention and effort by legislators, administrators, and educators.

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